

Partners in Protection:

White Clay Wild & Scenic Watershed



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2013 Mid Atlantic Volunteer
Monitoring Conference



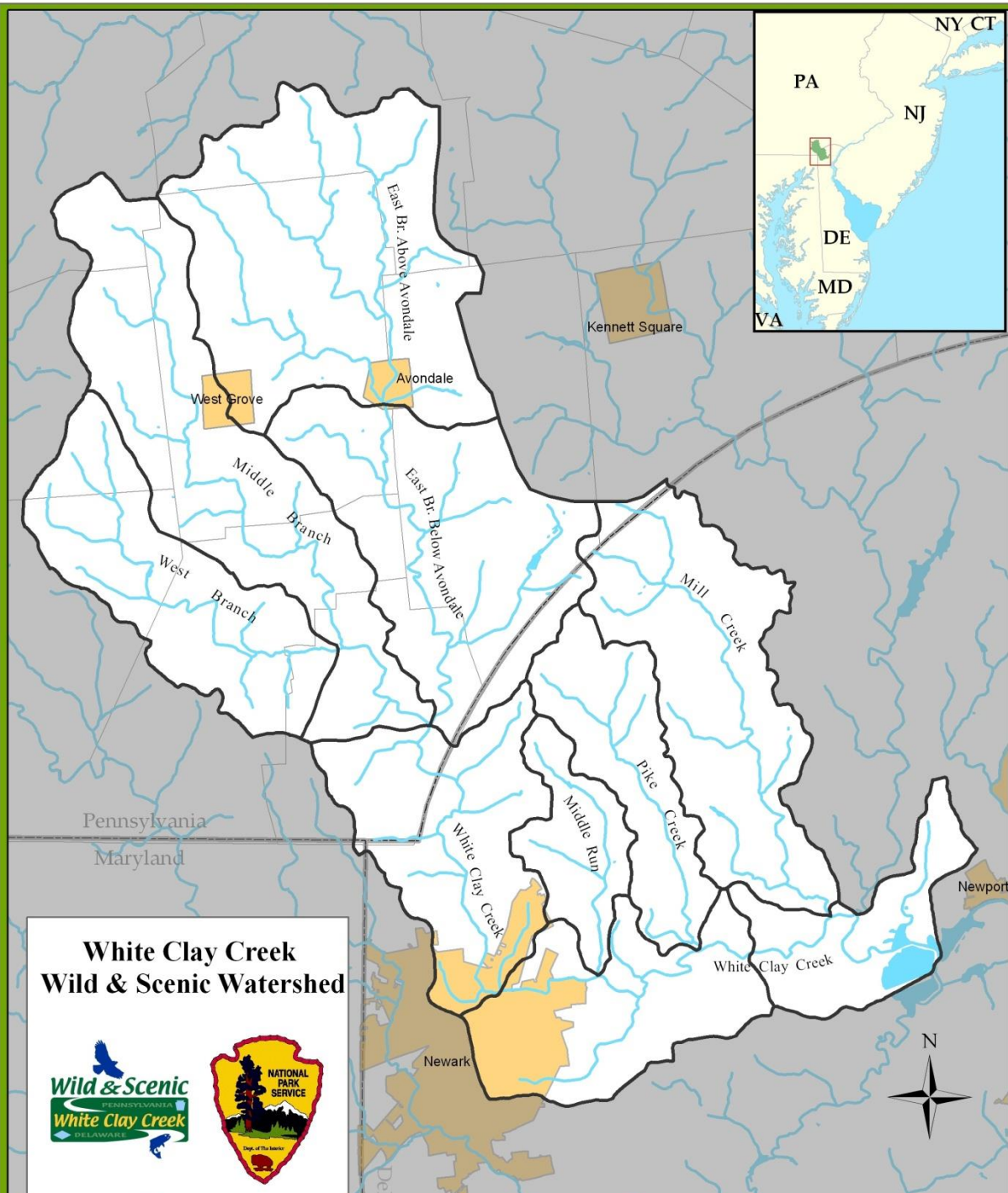
Watershed Stewardship:

engaging people & partners in the protection of Delaware's watersheds

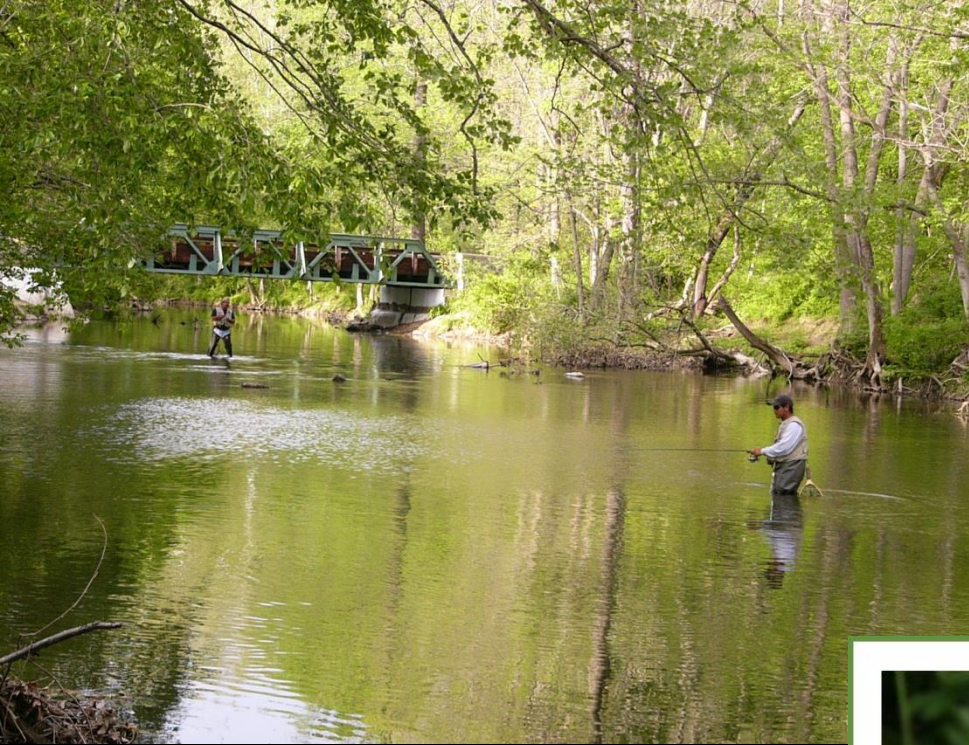


- Stream Watch
 - *Stream Adoption*
 - *Technical Monitoring*
- Certified Wildlife Habitat





First entire watershed (rather than just a section of a river) designated into the *Wild and Scenic* federal system.



Ardea herodias

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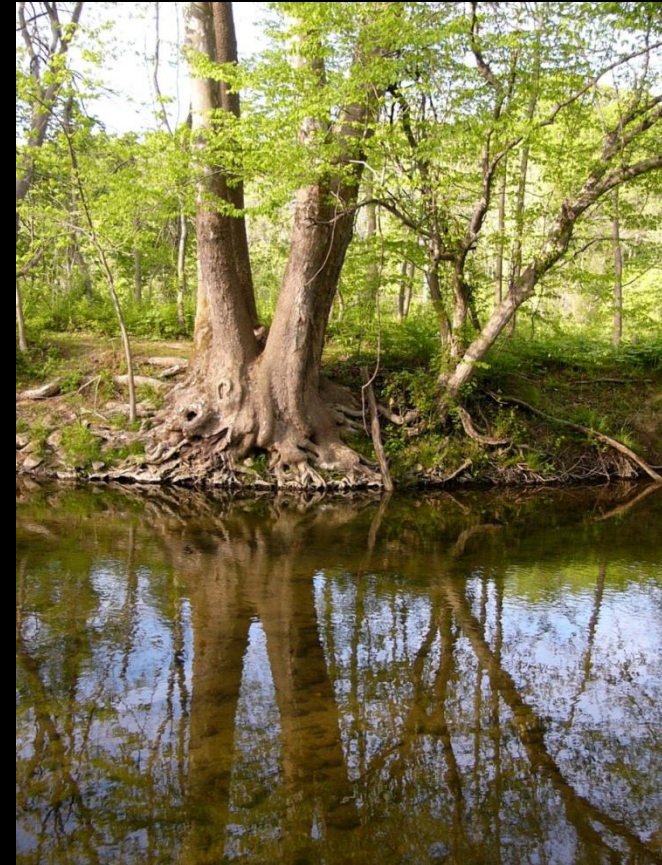
Management Plan Goals

- Improve and conserve water quality and water quantity.
- Conserve open space, woodlands, wetlands & geologic features.
- Protect native plant and animal species.
- Preserve cultural, historical and archaeological sites.
- Enhance outdoor recreation opportunities.
- Encourage environmental education and watershed awareness.



Management in Partnership

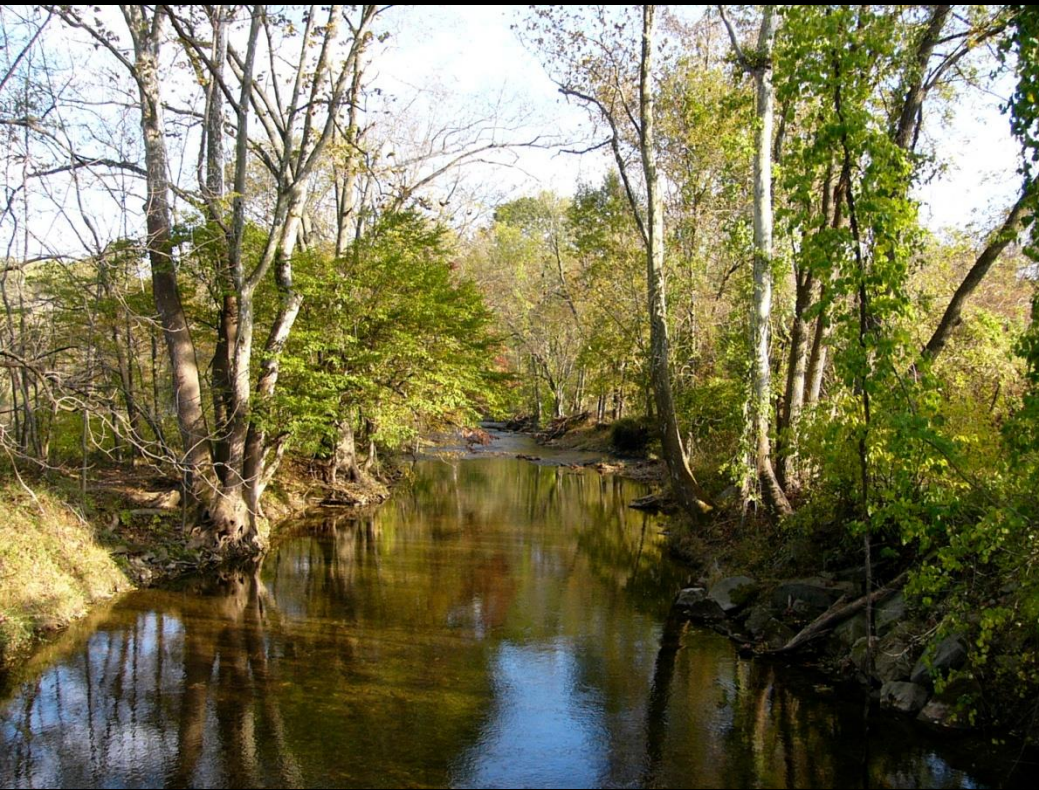
- Over site by NPS
- Management committee comprised of watershed residents, conservation organizations, all 15 municipalities
- White Clay Watershed Association fiscal agent
- Part-time paid Coordinator



Partnerships

Cost-effective, Sustainable, Catalysts

2012 Partners: Local Residents, Coalition for Natural Stream Valleys, Natural Lands Trust, Brandywine Conservancy, Delaware Department of Natural Resources & Environmental Control, Delaware Nature Society, Chester County and New Castle County Conservation Districts, Friends of White Clay Creek State Park, Taproot Native Design, Partnership for the Delaware Estuary, Pennsylvania Department of Conservation and Natural Resources, Stroud Water Research Center, University of Delaware, United Water Suez Environment, White Clay Watershed Association, City of Newark, and Franklin, London Britain, London Grove and New Garden Townships, and Chester and New Castle Counties...



Open Space Protection

**2012: \$30,000 of funds
leverage to secure
easement on 160 acres
worth \$2.2 million**



Shad Restoration & Dam Removal

Stormwater Basin Retrofits & Reforestation



Creekfest

Partners: DE State Parks, White Clay Wild & Scenic, United Water Suez, American Mushroom Museum...

*Watershed Management
Plan provides framework
but projects initiated by
partners*





How healthy is the White Clay Creek?

- Drinking water for 140,000 people



Ardea herodias

© René Lortie 2004

Water quality impairments

- Nutrients
- Bacteria
- Habitat
- Sediment

TMDL development



Water Chemistry



Partners:
Volunteers, DNS, DE Department
of Natural Resources &
Environmental Control, funders

Macroinvertebrates



Riparian Habitat



Bacteria

Different
standards for PA
& DE

- DE Enterococci
- PA E. coli



Got Mussels?

Freshwater
Mussels that is!



Not Many Left...



Patchy, Impaired



Elliptio complanata

Rare



Strophitus undulatus

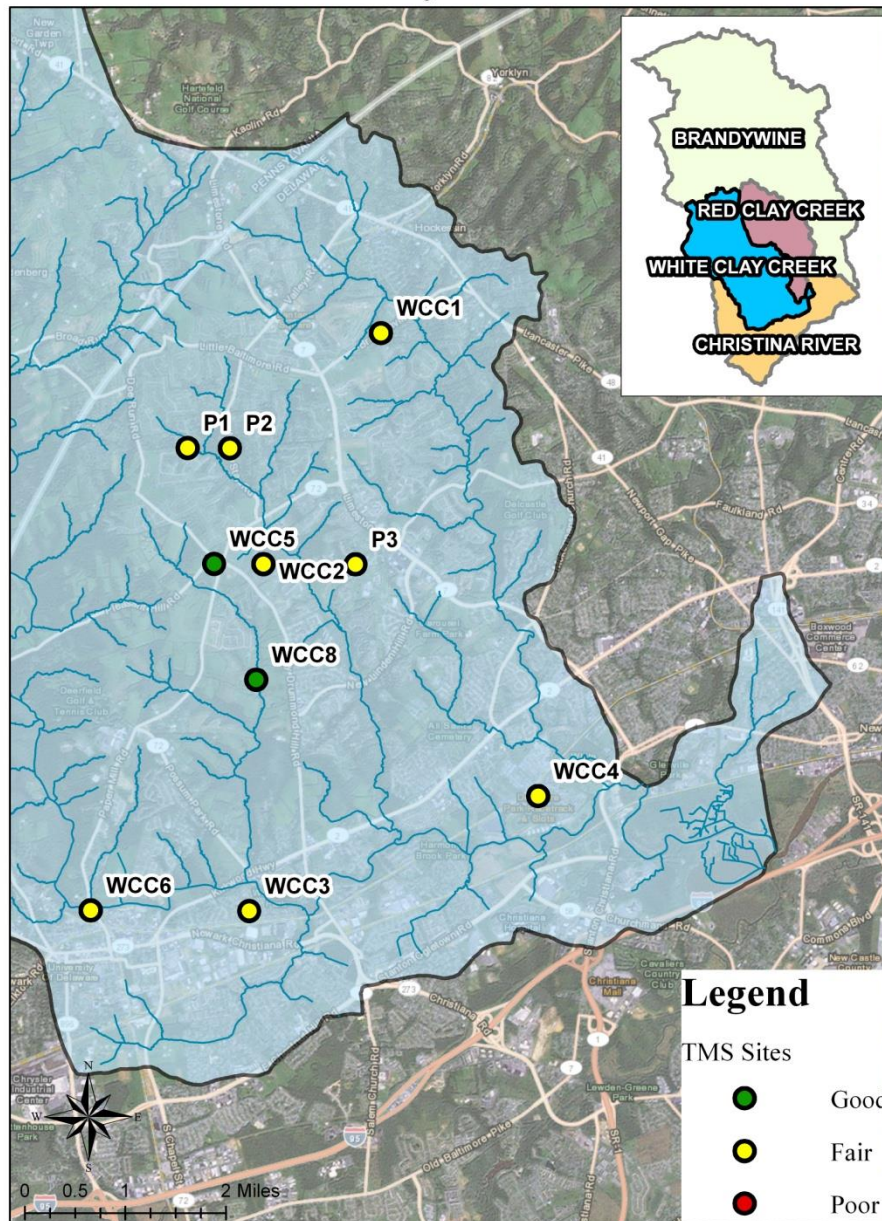
Extirpated



Alasmidonta heterodon

		State Conservation Status		
Scientific Name	Scientific Name	DE	NJ	PA
ALASMIDONTA HETERODON	DWARF WEDGEMUSSEL	Endangered	Endangered	Critically Imperiled
ALASMIDONTA UNDULATA	TRIANGLE FLOATER	Extirpated ?	Threatened	Vulnerable
ALASMIDONTA VARICOSA	BROOK FLOATER	Endangered	Endangered	Imperiled
ANODONTA IMBICATA	ALEWIFE FLOATER	Extremely Rare	no data	Extirpated ?
ELLIPTIO COMPLANATA	EASTERN ELLIPTIO	common	common	Secure
LAMPSILIS CARIOSA	YELLOW LAMPMUSSEL	Endangered	Threatened	Vulnerable
LAMPSILIS LADIATA	EASTERN LAMPMUSSEL	Endangered	Threatened	Imperiled
LASMIGONA SUBVIRIDIS	GREEN FLOATER	no data	Endangered	Imperiled
LEPTODEA OCHRACEA	TIDEWATER MUCKET	Endangered	Threatened	Extirpated ?
LIGUMIA NASUTA	EASTERN PONDMUSSEL	Endangered	Threatened	Critically Imperiled
MARGARITIFERA MARGARITIFERA	EASTERN PEARLSHELL	no data	no data	Imperiled
PYGANODON CATARACTA	EASTERN FLOATER	no data	no data	Vulnerable
STROPHITUS UNDULATUS	SQUAWFOOT	Extremely Rare	Species of Concern	Apparently Secure

2013 Ratings for Technical Monitoring Sites in the White Clay Creek Watershed



Partnership

Lessons Learned

- Different strengths united by common Purpose
- Seed money as catalyst
- Wild & Scenic designation lends strength
- Stay loose and flexible

